Modeling Periodic Phenomena

**CORE STANDARDS**

F.TF.7

LESSON

**6-2**

Secondary Math 3

OBJECTIVE **1. I can utilize inverse trig functions to solve equations.**

NOTES Sine and Cosine functions are periodic meaning that more than often there are more than one solution to a problem. We often limit results to



Ex: when , when , and when

When using the and function, the calculator will give you the angle in the range [-π, π] or [-90, 90]

When using the function, the calculator will give you the angle in the range [0, π] or [0,90]

To find second answer for sine subtract first answer from .

To find second answer for cosine subtract first answer from .

To find second answer for tangent add to first answer.

EXAMPLES

1. A heater turns on in a home when the outside temperature is below 45°F . During the middle of March in Salt Lake City, you can model the outside temperature in degrees Fahrenheit using the function , where t is the number of hours past noon. During which hours is the heater heating the home?

PRACTICE **6-2** NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[SHOW YOUR WORK]